



## U.S. FISH & WILDLIFE SERVICE

# Carterville Fishery Resources Office (CFRO)

### *Accomplishment Report: August/September 2004*

**The Carterville Fishery Resources Office (CFRO)** conserves, protects, and enhances aquatic ecosystems throughout Illinois, Indiana, Ohio, and parts of Missouri by working with others to protect and restore habitat, improve sport fishing, manage and control aquatic nuisance species, and conserve and restore native aquatic species (particularly interjurisdictional fish such as sturgeon and paddlefish).

Our recent activities are summarized below, but for additional information or questions please feel free to contact us:

Rob Simmonds, Project Leader  
Greg Conover, Assistant Project Leader  
Judy Patrick, Administrative Technician  
Nathan Caswell, Fishery Biologist  
Colby Wrasse, Fishery Biologist  
Cory Hilliard, Bioscience Technician  
Trent Hilliard, STEP (Student Trainee)  
Amy Levin, STEP (Student Trainee)

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CFRO Welcomes Visitors



## Partnerships & Accountability

### **"Visitors Center" Doors Open**

Shelley Simmonds (volunteer) with assistance from Conover and R. Simmonds revamped the office entryway to create a CFRO "Visitors Center." The entryway currently features a 55 gallon aquarium with native fish, a project board to display photos with brief captions on our current projects, and 2 racks of brochures. Soon it will also include mounts of Asian carp and possibly paddlefish, sturgeon, largemouth bass, and/or crappie. The purpose of the area is to generate public interest in our projects and to generate questions for CFRO staff. – *Rob Simmonds*

### **The Future of CFRO – Let the Work Planning Begin**

Caswell, Conover, Simmonds, and Wrasse participated in a CFRO Biologists Meeting to begin mapping out the future of the office. Primary focus areas were identified from the Fisheries Strategic Plan as were over 100 potential projects. We will continue to work among ourselves and with our partners to identify additional potential projects. We will also develop and apply ranking criteria to identify which projects we will pursue first. We will continue to gather information and refine ideas for all projects, but for those that rank highest, we will develop Operational Plans, write FONS projects or grant proposals as needed, and complete the projects. Completion of these necessary planning steps will assure that we are doing top priority projects, that they are well designed, and that we are providing the maximum benefit to the resource. – *Rob Simmonds*

### **Carterville FRO Actively Involved in the 134th Annual Meeting of the American Fisheries Society**

CFRO Biologists made several contributions to the 134th Annual Meeting of the American Fisheries Society in Madison, WI. Greg Conover was invited to give a presentation on the development of a national Asian Carp Management and Control Plan as part of a symposium on Bighead and Silver Carps. Nate Caswell presented our work on two projects investigating fish response to placing dredge material on shorelines. In addition to the presentations, CFRO staff also served as a session moderator, judged student presentations, and assisted in shuttling meeting participants. This was a great opportunity for staff to increase their knowledge of fisheries science and technology, share valuable information with peers, and to foster and develop partnerships. – *Greg Conover*

### **Coordinating Service Efforts - Ecological Services, Fisheries, and Refuges**

R. Simmonds met with staff from the Marion Ecological Services Office, Mark Twain National Wildlife Refuge (NWR) Complex, and the Middle Mississippi River NWR. The meeting accomplished its intended purpose of briefing new CFRO Project Leader, Rob Simmonds, on issues of mutual interest among the offices and to identify opportunities for collaborative projects among the offices. Everything from Mel Price Lock and Dam to the Middle Mississippi River Side Channel Plan to sport fishing to the Long-Term Resource Monitoring Program to a "Fishing Fair" was discussed. This will surely be the first of many

fruitful discussions on these and other important issues in the Mississippi River basin. –  
*Rob Simmonds*

## **Carterville FRO Assists Boy Scouts with Merit Badges**

Levin, Wrasse, and staff from Crab Orchard NWR assisted local Boy Scouts in completion of the Fish and Wildlife Science Merit Badge. A group of seventeen Boy Scouts used a seine to collect fish and then identified these fish along with others that were collected by electrofishing. Scouts identified external features and internal organs of the fish and then examined the stomach contents of five different species of fish. The Boy Scouts thoroughly enjoyed the day while learning about fishery science. – *Colby Wrasse*

## **Other Activities**

- Caswell, Conover, and Simmonds developed FONS (Fishery Operational Needs System) projects for FY05. The FONS system captures unmet needs of the Service's Fisheries Program and is used to generate initiatives, back funding requests, and to allocate "new" funding. For a current list of CFRO projects contact Rob Simmonds.
- CFRO staff worked together to complete Accomplishment Reports for FY04. These reports capture the work that has been completed over the past 12 months into a condensed, searchable format.
- Conover, Patrick, and Simmonds intensively managed and operated within the station budget through the FY04 year-end closeout procedures.
- Conover and Simmonds participated in a Region 3, Big River Stations, Project Leaders Meeting. Issues discussed included ANS, Fish Passage, collaboration with Federal Aid, status of native fish in the region, budget, FONS, and much more. The entire meeting was a great opportunity for Project Leaders, Assistant Project Leaders, the Program Supervisor, and the Assistant Regional Director – Fisheries to get to know each other and to come together on issues of mutual concern.
- CFRO staff worked together to finalize agreements and permits for Fish Passage and Cost Share projects, with Caswell carrying the bulk of the load. The projects will result in opening over 70 miles of stream, gathering critical information on endangered pallid sturgeon spawning, as well as critical information on exotic Asian carp use of habitat in the Mississippi River.
- Levin maintained CFRO's aquarium, including completely draining and cleaning the tank, setting it up on a refurbished stand, and reassembling it (the fish have never had it so good!).

## Aquatic Species Conservation & Management

### **Cartersville FRO Discovers Nursery Area for Shovelnose Sturgeon and Paddlefish**

During the months of June through September, CFRO investigated habitat use by young-of-the-year shovelnose sturgeon in the Middle Mississippi River. CFRO extensively sampled the Rockwood Island area (River miles 103-99), a high priority acquisition of the Middle Mississippi River NWR. In total, 52 shovelnose sturgeon, from 25-144mm, were collected along with several adult sturgeon. In addition, we captured 23 paddlefish ranging in size from 20-196mm. Both shovelnose sturgeon and



paddlefish are interjurisdictional fish and are of special interest to fishery scientists. Little information is available regarding habitat use by young sturgeon. The data collected will be of great use to refuge managers and biologists when considering future habitat modification and restoration efforts. – Colby Wrasse

### **Asian Carp Work Group - Development of a National Management and Control Plan – The Latest News:**

CFRO hosted a second meeting of the Asian Carp Work Group in conjunction with the 134th Annual Meeting of the American Fisheries Society in Madison, WI. Partners and stakeholders who had expressed an interest in being involved in the development and drafting of components of the Management and Control Plan were asked to attend the meeting. Thirty-one participants met to review the results of the breakout sessions held during the August 2004 Work Group meeting, to finalize a framework for the Management and Control Plan, and to identify drafting teams and timelines for development of the draft plan. Some progress was made on all these efforts, but a good deal of time was also invested in bringing the group together on the goals of the plan.

In addition, Conover and Simmonds attended a MICRA (Mississippi Interstate Cooperative Resource Association) Executive Board Meeting. MICRA is made up of representatives from natural resource departments throughout the Mississippi River Basin (28 states in all) who are cooperatively working to manage aquatic resources. Conover presented an update on the development of the Asian Carp Management and Control Plan. Several good questions and discussions resulted with a definite interest in getting at least some



actions in place sooner rather than later (consensus will be difficult to reach on some issues but it should not hold up progress in management and control of Asian carp in less controversial areas).

This effort will result in a collaborative Management and Control Plan addressing bighead carp, silver carp, grass carp, and black carp developed by multiple resource management partners and stakeholders. Once completed, the draft plan will be submitted to the Aquatic Nuisance Species Task Force for implementation approval. This collaborative plan is an essential coordination tool to integrate prevention and control activities across the nation to limit the further distribution and negative impacts of these four aquatic nuisance species. – *Greg Conover*

## **Carterville FRO participates in Annual Illinois River Goby Roundup and Carp Corral**



Caswell and Wrasse, once again participated in the annual Illinois River “Goby Roundup and Carp Corral” coordinated by the La Crosse FRO. Wrasse served as a crew leader in the Marseilles reach, and Caswell was crew leader in the Starved Rock reach of the Illinois River. Efforts in both reaches included setting minnow traps for gobies, and gill nets, trammel nets, and mini-fyke nets for bighead and silver carp. In

addition, Caswell worked with Eric Leis from the La Crosse Fish Health Center to collect carp samples for pathogen analyses. CFRO also coordinated with Pam Theil (Project Leader, La Crosse FRO) to accommodate media personnel from the La Salle, IL News-Tribune and the Chicago, IL office of National Public Radio in an ongoing effort to gain exposure and increase public awareness of aquatic nuisance species. – *Nathan Caswell*

## **Triploid Grass Carp Inspections Continue**

CFRO continued participation in the Service's Triploid Grass Carp Inspection/Certification Program, a service offered to natural resource agencies in the United States and other countries to help protect their natural resources from reproductive populations of grass carp in the wild. Grass carp are very effective at controlling aquatic vegetation which is a great management tool for pond owners when stocked at appropriate densities. However, if grass carp are allowed to reproduce and thus increase numbers beyond what is needed for vegetation control, then aquatic habitat can be destroyed. Particularly troublesome are

grass carp that escape from ponds during flooding and end up loose in the wild. The Triploid Grass Carp Program helps to insure, within the confidence limits of the inspection program, that when escape occurs, the “escapees” do not reproduce. During FY 2004, Carterville FRO conducted 13 inspections for triploid grass carp producers in Region 3. In all, 16,935 triploid grass carp were certified for 39 shipments into five states. – *Nathan Caswell*

## **Other Activities**

- Conover and Simmonds participated in a conference call with Region 4 to discuss the need and options for a meeting of the FWS inspectors and triploid grass carp producers to discuss the Triploid Grass Carp Inspection and Certification Program.
- Caswell and C. Hilliard conducted fall black carp monitoring survey in the Cache River basin. One station was not sampled due to extremely low water conditions, however, sampling completed by the Illinois Department of Natural Resources (our partner on the project) and CFRO was thorough and no black carp were collected.

## **Leadership in Science & Technology**

### **Carterville FRO Performs Essential Role in the MICRA National Paddlefish Stock Assessment**

CFRO was actively involved in coordination of the MICRA National Paddlefish Stock Assessment throughout FY2004. Twenty-three state natural resources management agencies have been actively involved in a Mississippi River Basin stock assessment project since 1995. The Carterville and Columbia FROs have provided crucial coordination assistance to this project by operating a coded-wire tag processing center, managing a database to store data from across the basin, and providing data sets and summaries that are used to generate sub-basin level paddlefish management plans. During FY04, technicians and biologists at CFRO processed and read more than 10,000 reference tags from wild and hatchery tagged paddlefish, as well as extracted and read coded-wire tags from more than 500 recaptures. These data will be added to the national database, summarized, and provided back to the project participants at the next MICRA paddlefish sub-committee meeting in January 2005.

Most recently, Conover presented an update to the MICRA Executive Board on Carterville and Columbia FROs' FY04 activities and accomplishments operating a coded-wire tag center and providing coordinated database management for the MICRA National Paddlefish Stock Assessment. Also, C. Hilliard and Amy Levin read the last of the coded wire tags that made up our backlog. Thanks to their hard work, CFRO is caught up on MICRA tags for the first time in quite a while! – *Greg Conover*

## Aquatic Habitat Conservation & Management

### Fish Aged to Evaluate Effects of Swan Lake Habitat Restoration Project



Swan Lake is a large backwater lake of the Illinois River and part of the Two Rivers National Wildlife Refuge. Swan Lake was the site of a recent Habitat Rehabilitation and Enhancement Project (HREP) aimed in part at improving aquatic habitat for the benefit of fish. CFRO, along with Southern Illinois University and the Illinois Natural History Survey, is part of a large project investigating the fisheries response to the HREP project. CFRO is examining the population age and size structure of both native and invasive exotic species.

To date, CFRO has removed otoliths/scales and aged 136 fish from Middle Swan Lake and 113 fish from Lower Swan Lake. Preliminary results suggest slightly above average growth rates for bluegill during the first two years of life, while black crappie demonstrated good growth rates for the first year of life. Freshwater drum growth rates appear to slow drastically after the fish reaches approximately 13 inches (330mm) at about four years of age. Freshwater drum as old as 15+ have been collected.

CFRO is currently sectioning and aging bighead and silver carp fin spines and continuing to provide monthly reports to the Corps of Engineers. This project is scheduled to continue through 2006 and will provide valuable information for future HREP projects. – *Colby Wrasse*

### Carterville FRO and CERCLA Evaluate Effectiveness of PCB Remediation at Crab Orchard NWR Using Fish as Indicator

CFRO and CERCLA are working to evaluate the effectiveness of PCB remediation at the Sangamo National Priorities List (NPL) site under the Crab Orchard Superfund Project. Although PCB production was banned in the U.S. in 1979, PCB contaminated hotspots associated with past industrial activities remain. PCB remediation was conducted through soil and sediment removal at the Sangamo NPL site from 1995-1997. Personnel from CFRO and CERCLA have completed the second year of sampling in an ongoing project to evaluate the effectiveness of PCB remediation. In addition to the physical and chemical analyses of fish conducted by CERCLA personnel, CFRO will examine the population structure of upper trophic level fishes (e.g., largemouth bass). Fish community diversity, species richness, and species evenness will be compared between sites. Although





additional data is needed, preliminary results across years shows no significant difference in species diversity between bays, possibly indicating successful remediation efforts at this site. – *Nathan Caswell*

## **Carterville FRO Submits Final Report for Dredged Material Placement Studies**

CFRO recently submitted the final report for 2, 3 year studies on the effects of dredged material placement on fish to the U.S. Army Corps of Engineers (USACE) - Rock Island District. Environmental impacts of channel maintenance dredging on the Upper Mississippi River System have long been a concern of river resource managers. Under the terms of a recent Clean Water Act-Section 404 permit to discharge dredged or fill material into the waters of the United States, USACE agreed to assess the ecological impacts of dredged material placement. Part of this effort included investigation of sites at Hogback Island (RM 331.7 - 333.5 L) in the Upper Mississippi River (Pool 21) and at Senate Island (RM 130.0 - 133.1 L) in the Illinois River (La Grange Pool) to determine if the results from a previous Upper Mississippi River study apply to other parts of the system. CFRO collected monthly fish community samples at both additional sites spring through fall over a three-year period (2001-2003). Final analyses for the Hogback and Senate Island data sets indicate that there were no significant changes in species richness, evenness, or diversity at either study site. These results, combined with the results of the previous Island 241 study, indicate that there are no short-term negative impacts to the fish community as a result of dredged material placement at *existing* placement sites. Carterville FRO is currently preparing a manuscript summarizing the project to submit for publication in a scientific journal. – *Nathan Caswell*



## **Carterville FRO Begins Pre-project Data Collection for Mississippi River Habitat Restoration Project in the Red Rock Reach**

Maintenance of a 9-foot navigation channel in the Mississippi River has required considerable engineering modifications to the natural river system. Flows in the middle Mississippi River have been redirected toward the navigation channel by the construction of wing dikes. This redirection of energy has caused the constriction of the river channel, and has created a homogenous pattern of sediment deposition that limits the quality, quantity, and diversity of aquatic habitat types in the river. USACE has proposed dike alterations within the Red Rock reach of the middle Mississippi River as a method of increasing habitat diversity in this area. The Red Rock reach is a 7-mile stretch of the middle Mississippi River (Miles 86.0-93.0) located approximately eight miles downstream from Chester, Illinois. Construction of dike alterations by the USACE is expected to begin during 2005 or 2006. CFRO, in consultation with the Marion Ecological Services Office has begun limited pre-project data collection on habitat use by sturgeon in the Red Rock reach. Caswell, C. Hilliard, and Wrasse conducted field sampling monthly from July through September 2004 using gill nets and a Missouri Trawl. Preliminary data show that this reach of the Middle Mississippi River is lightly used by young-of-year and adult sturgeon during the warmest months of the year. Catches, however, are expected to increase as water temperatures drop and sturgeon begin to seek out deep holes associated with the wing dikes. – *Nathan Caswell*

## **Other Activities**

- T. Hilliard and Levin sectioned and mounted sturgeon spines to age fish as part of an evaluation of habitat utilization on the Middle Mississippi River NWR. Levin also assisted with data entry for this project.
- C. Hilliard cut catfish spines for aging as part of a CERCLA project to evaluate the effectiveness of PCB remediation on Sangamo Bay on Crab Orchard Lake.
- Caswell worked with Illinois Department of Natural Resources Region 2 Streams Specialist Steve Pescitelli to finalize planning and financial contracts for the Big Rock Creek, Illinois fish passage project.
- Caswell initiated contact with Kane County, Illinois Watershed Engineer Karen Kosky, and worked with her to include an upcoming fish passage project on Brewster Creek in the Service's National Fish Passage Program.
- Caswell initiated contact with Illinois Department of Natural Resources Region 3 Streams Specialist Gary Lutterbie and Danville, Illinois City Engineer Ed Miller to discuss the potential for the Service's involvement in potential dam removal/fish passage projects on the Vermillion River watershed. The Middle Fork of the Vermillion is the only National Scenic River in Illinois.

## **Workforce Management**

### **Other Activities**

- Conover received a STAR award for his work as Acting Project Leader for CFRO. For over a year Greg juggled the duties and workload of 2 positions (not to mention his work as the “Asian Carp Work Group Coordinator”). Due to his hard work, positive attitude, and skills in working with partners, the stage is set for CFRO to launch into a new era. Congratulations and thanks Greg!
- Wrasse received a STAR award for his efforts in recruiting a volunteer workforce. His efforts allowed CFRO to accomplish weeks of critical fieldwork during a time when staff was short. Congratulations and thanks Colby!
- CFRO hosted a cookout with Crab Orchard and Middle Mississippi River National Wildlife Refuges to recognize and thank CFRO’s three temporary employees who assisted on multiple field and laboratory projects for all three stations through FY04. Amy Levin, Cory Hilliard, and Trent Hilliard will certainly be missed!

## **Misc. Activities**

### **Other Activities**

- C. Hilliard and T. Hilliard replaced wheel bearings, installed depth finders, cleaned nets, and winterized boats.